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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/877,622 | 06/08/2001 | Qianjun Liu | 4143/CIP-1 | 2232 |

7590 04/23/2003

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT

PAPER NUMBER

2674

4

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/877,622

Applicant(s)

LIU ET AL.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's election without traverse of species A, directed to claims 1-6 and 13-21, in Paper No. 3 is acknowledged.
2. In the specification, the phrase "this application is a continuation-in-part of application serial no. 09/670,620, filed 09/26/00" should be changed to -- this application is a continuation-in-part of application serial no. 09/670,610, filed 09/26/00 --.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzaki (U.S. Patent No. 5,792,997) in view of Van Ruymbeke (U.S. Patent No. 6,380,930).

Regarding claims 1 and 18, referring to Figs. 1 and 3A, Fukuzaki teaches in a touch sensing system for identifying at least one active touch stimulating device (30A, 30B), an apparatus for powering the active touch stimulating device (30A, 30B), comprising: a touch sensing area (11) in which said at least one active touch stimulating device operates (30A, 30B); a transducer (12, 13) disposed operatively associated with said touch sensing area for transmitting a power signal to said at least one active touch stimulating devices (30A, 30B); each of said active touch stimulating devices including means (i.e. antenna of circuit 10) for receiving said power signal and converting said power signal to electrical operating power for said active touch stimulating device; said transducer (12, 13) includes a first antenna, and further including

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means (19) for driving said first antenna (12, 13) to generate an EM field within said touch sensing area (11) (col. 4, lines 35-67, col. 5, lines 1-36).

Fukuzaki differs from claims 1 and 18 in that he does not specifically teach the first antenna extending about the perimeter of said touch sensing area. However, referring to Fig. 5, Van Ruymbeke discloses antenna (68) extending about the perimeter of said touch sensing area (62) (col. 4, lines 16-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the first antenna extending about the perimeter of said touch sensing area as taught by Van Ruymbeke in the system of Fukuzaki in order to provide maximum power from the loop antenna, so that the resulting EM field distributes maximum energy to the touch input device.

Regarding claim 2, referring to Figs. 1 and 3A, Fukuzaki further teaches at least one touch stimulating device (30A, 30B) includes a second antenna (10) adapted to receive power from said EM field within said touch sensing area (11) (col. 4, lines 54-67).

Regarding claim 3, referring to Figs. 1 and 3A, Fukuzaki further teaches the second antenna (10) is a resonant antenna tuned to the frequency of said EM field (col. 4, lines 54-67).

Regarding claim 4, Fukuzaki further teaches rectifying means (10) connected to the output of said resonant antenna to generate operating power for said active touch stimulating device.

Regarding claim 5, referring to Figs. 1 and 3A, Fukuzaki further teaches the resonant antenna (10) includes an inductor coil and a capacitor connected to be tuned to the frequency of said EM field (col. 4, lines 54-67).

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Regarding claim 6, the combination of Fukuzaki and Van Ruymbeke teaches touch stimulating device includes touch signaling means incorporating spread spectrum signals (col. 3, lines 11-20 of Van Ruymbeke).

5. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzaki (U.S. Patent No. 5,792,997) in view of Stevenson et al. (U.S. Patent No. 5,953,438).

Regarding claims 13 and 19, referring to Figs. 1 and 3A, Fukizaki teaches an a touch sensing system for identifying at least one active touch stimulating device (30A, 30B), an apparatus for powering the active touch stimulating device (30A, 30B), comprising: a touch sensing area (11) in which said at least one active touch stimulating device operates (30A, 30B); a transducer (12, 13) operatively associated with said touch sensing area for transmitting a power signal to said at least one active touch stimulating devices (30A, 30B); each of said active touch stimulating devices (30A, 30B) including means (10) for receiving said power signal and converting said power signal to electrical operating power for said active touch stimulating device (col. 4, lines 35-67, col. 5, lines 1-36).

Fukizaki differs from claims 13 and 19 in that he does not specifically teach a conductive layer disposed within said touch sensing area, said transducer including at least one power signal transmitter coupled to said conductive layer to generate an EM field in said conductive layer. However, Stevenson discloses a conductive layer (221) disposed within said touch sensing area, transducer including at least one power signal transmitter coupled to said conductive layer (221) to generate an EM field in said conductive layer (col. 4, line 60 to col. 5, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the conductive layer disposed within said touch sensing area, said transducer

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including at least one power signal transmitter coupled to said conductive layer to generate an EM field in said conductive layer as taught by Stevenson in the system of Fukizaki in order to prevent the environmental and mechanical damage and increase in efficiency generating an EM field.

6. Claims 14-17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuzaki (U.S. Patent No. 5,792,997) in view of Stevenson et al. (U.S. Patent No. 5,953,438) further in view of Van Ruymbeke (U.S. Patent No. 6,380,930).

Regarding claim 14, the combination of Fukuzaki and Stevenson teaches transducer (12, 13) includes at least one power signal transmitter (16) coupled to conductive layer and controlled to establish an AC voltage gradient across said conductive layer.

The combination of Fukuzaki and Stevenson differs from claim 14 in that it does not specifically teach transducer coupled to peripheral portion. However, referring to Fig. 5, Van Ruymbeke disclose transducer (68) coupled to perimeter portion (col. 4, lines 16-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transducer coupled to perimeter portion as taught by Van Ruymbeke in the system of the combination of Fukuzaki and Stevenson in order to provide maximum power from the loop antenna, so that the resulting EM field distributes maximum energy to the touch input device.

Regarding claims 15 and 20, the combination of Fukuzaki, Stevenson and Van Ruymbeke teaches a pair of contact points (301, 302) adapted to electrically engage said conductive layer (221), said pair of contact points (301, 302) being spaced apart to acquire a

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voltage differential from said voltage gradient in said conductive layer (221) (col. 6, lines 13-28 of Stevenson).

Regarding claims 16 and 21, rectifying means (10) connected to said voltage differential to generate operating power for said active touch stimulating device (Fig. 1 of Fukuzaki).

Regarding claim 17, the combination of Fukuzaki, Stevenson and Van Ruymbeke teaches touch stimulating device includes touch signaling means incorporating spread spectrum signals (col. 3, lines 11-20 of Van Ruymbeke).

7. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Katabami (U.S. Patent No. 6,373,474) teaches real contact type touch panel apparatus.

Wieczorek et al. (U.S. Patent No. 5,557,076) teaches cordless position detection apparatus.

Katsurahira et al. (U.S. Patent No. 6,005,555) teaches position detecting apparatus and method for detecting position pointing device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, DC. 20231

Or faxed to: 703-872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen
Patent Examiner
Art Unit 2674



**RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**